

5 a second frame for receiving a light source[which], wherein said second frame is detachably
6 coupled to the side peripheral portion of the bottom surface of said first frame where the side wall
7 is not formed, the second frame being coupled with the first frame such that the extremities of the
8 second frame are within the periphery of the outer portions of the first frame.

1 13 (amended). The container module as claimed in claim 12, wherein both ends of the
2 supporting member are vertically bent and extend towards the side wall positioned[in] perpendicular
3 to the supporting member.

REMARKS

Claims 1-25 are currently pending in the application. By this amendment, claims 1, 4, 10 and 13 are amended. These amendments are made for clarification purposes and to correct minor typographical and grammatical errors and not for patentability reasons. Marked-up versions of the amended claims are also attached on separate sheets. No new matter is added.

Reconsideration of the rejected claims, in view of the above amendments and the following remarks, is respectfully requested.

Amendments to Claims

Claim 1 was amended to correct a minor grammatical error on line 8 and to clarify that the second frame, when installed inside the first frame, is within the periphery of the outer portions of the first frame. Support for this is provided in the specification in at least page 10, lines 8-15, page 16, lines 2-3 and at FIGS. 2-3. Claim 4 was amended to correct minor grammatical errors on lines 4 and 7. Claim 10 was amended to correct minor grammatical errors on lines 3 and 5 and to clarify that when the second frame is coupled with the first frame, it is within the periphery of the outer

portions of the first frame. Support for this is also provided in at least page 10, lines 8-15, page 16, lines 2-3 and at FIGS. 2-3. Claim 13 was amended to correct a minor grammatical error on line 2. No new matter has been added.

§ 103(a) Rejections

Claims 1-15, 17-21 and 23-25

Claims 1-15, 17-21 and 23-25 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Nagamura et al., U.S. Patent No. 6,292,239, in view of Susumu et al., JP 11-133401. Applicants respectfully traverse these rejections and submit that these claims are non-obvious and patentably distinct from the prior art references and therefore should be allowed.

To establish a *prima facie* case of obviousness for a claim, two requirements must be satisfied. First, the cited references must teach or suggest all the features recited in the claim. Second, there must have been some teaching or suggestion in existence at the time of the invention was made that would have led one of ordinary skill in the art to combine the references in an attempt to form the claimed invention. *See* MPEP '2143.01. In addition, the teaching or suggestion to make the claimed combination must be found from the prior art, but not from the applicant's disclosure. *Id.* That is, it is improper to rely on hindsight derived from the applicant's own disclosure.

The present invention teaches a liquid crystal display (LCD) device including a display unit, a back light assembly including a light source, a light guiding plate and a light focusing means installed above the light guiding plate, and a mold frame that can be divided into at least two frames. A first frame of the mold frame receives the light guiding plate, the light focusing portion and the light focusing means, whereas a second frame of the mold frame receives the light source. Such a configuration allows the second frame to be efficiently installed inside the first frame so that the extremities of the second frame are within the periphery of the outer portions of the first frame. Moreover, this allows the light source to be readily exchanged by simply separating the second frame

from the first frame and then removing the light source from the second frame, which allows the light source to be protected by the second frame during the removal process.

At page 2 of the Office Action, the Examiner asserts that Nagamura discloses a LCD that includes a resin frame 3 “having a first frame (a liquid crystal panel containing frame 17) and a second frame (a back light component containing frame 10).” Applicant respectfully traverses this rejection and asserts that the Examiner’s reliance on Nagamura in this case is misplaced.

In stating the rejection, the Examiner admits the weakness of Nagamura as a prior art reference in that it “does not expressly disclose the mold frame having a same structure as the application claimed, i.e., the first frame for receiving the display unit, the light guide plate and the light focusing means, and the second frame for receiving the light source.” In fact, close examination of Nagamura reveals it does not disclose two frames as part of the mold frame as recited in claim 1 herein. Instead, Nagamura teaches only a single frame, the resin frame 3, that includes a backlight component containing frame 10, which encloses the back light unit (BU) components, and a LC panel containing frame 17, which encloses the LC panel 2. Despite the fact that Nagamura refers to these components as “frames,” they are not separate frames at all according to how that term is used herein. Instead, these are merely the upper and lower portions of the same frame, that is, the resin frame 3, and each is spaced apart from the other by the thickness of the supporting shelf (SH) (see col. 9, lines 11-14; FIG. 3). In no way does Nagamura teach or suggest the features recited in claim 1, that is, the inclusion of a mold frame comprising two separate frames. In fact, Nagamura teaches away from such a configuration because of the presence of the SH that is disclosed to always separate the backlight component containing frame 10 and the LC panel containing frame 17. This

can be clearly seen from FIGS. 3, 4, 6, 9 and 11 of Nagamura.

To make up for the deficiencies of Nagamura, the Examiner also cited Susumu in rejecting claim 1 on the grounds that “it would have been obvious...to use two such frames as claimed in claim 1 for achieving easily exchanging the light source.” (See Office Action, at p. 3). Applicants respectfully disagree with the Examiner’s assertions. In stating the rejection, the Examiner stated that Susumu discloses a LCD device “using two frames, one frame (first frame) is used for receiving the display unit such as the display panel (10), the light guiding plate (26) and the light focusing means (the optical films 28,30), another frame (lamp frame) is used for receiving the light source (31),” and that “the light source (31) would be easily detachable and be easily substituted.” A close examination of the teachings of Susumu, however, reveals that it, like Nagamura, fails to teach two separate frames as recited in claim 1 herein. Susumu actually teaches a single supporting frame 24 that is configured to hold an optical sheet and a light source unit 31 that is fitted to the frame. As can be seen from FIG. 5 of Susumu, the single supporting frame 24 includes a groove 38 into which a light source unit 31 can be inserted; however, the light source unit 31 is not a frame as that term is used and defined herein and as recited in claim 1 of the present invention.

Significantly, the deficiencies of Susumu as a prior art reference in this case can be seen by the fact that the light source unit 31 of Susumu actually extends to be outside the supporting frame 24 such that the holders 44 and the metallic protective cover 46 are outside the periphery of the rectangular-shaped volume created by the supporting frame 24. This can be seen by reference to FIGS. 1 and 2 of Susumu. In addition, by reference to FIGS. 2 and 5 of Susumu, the engagement portions 42 are formed on the outermost portion of the supporting frame 24. As such, the engaging

grooves formed on the cover 46 must be slid over the engagement projections 42 such that the outermost portion of the cover 46 extends beyond the extremities of the supporting frame 24. Consequently, the structure of the light source unit 31 of Susumu is unlike and patentably distinct from the second frame for receiving the light source as recited in claim 1 herein.

The Susumu device is, therefore, against recent development trend of light-weight and slim design, because it requires an additional device of protection covers for fitting a cold cathode-ray tube. Such an additional device extends the extremities of the supporting frame and increases the weight.

In addition to the above, the Examiner does not identify or provide any suggestion or motivation to modify the single resin frame of Nagamura with the teachings of the single supporting frame of Susumu to justify the rejection of claim 1 herein. Nor does the Examiner provide any motivation to combine these references as the Examiner did in rejecting claim 1. Moreover, the mere fact that the references may be modified in the manner suggested by the Examiner does not make the modification obvious unless the prior art suggested the desirability of the modification. In this case, Applicants respectfully assert that the Examiner has not made the requisite showing to support the claim rejection, and thus Applicants request the obviousness rejection be withdrawn as to claim 1.

The rejections of claims 2-9 on obviousness grounds are also misplaced since those claims depend from claim 1 that is distinguishable from and patentably distinct over the prior art as set forth above. In particular, both Nagamura and Susumu fail to teach or suggest a mold frame that includes two distinct frames--a first frame to receive the light guiding plate, the light focusing portion and the

light focusing means, and a second frame to receive the light source--as taught by the present invention. Therefore, for example, the rejections of claims 4-5 are misplaced because the single frame taught by Susumu includes vertical side walls on all sides of the frame and, as can be seen by reference to FIGS. 5 and 6 of Susumu, the so-called supporting member 38 of Susumu is actually a groove into which the light source unit 31 is inserted. In other words, the single frame of Susumu is a self-contained four-sided frame and it does not comprise two separate frames such as those recited in the claims of the present invention.

As to independent claim 10, the Examiner cites Susumu in rejecting that claim on the basis it would have been obvious “to arrange a first frame and a second frame as claimed in claims 10 and 4-5 for achieving easily exchanging the light source.” (See Office Action, at p. 4). In stating the rejection, the Examiner asserted that Susumu “discloses a first frame for receiving the display unit” and the “first frame including a bottom surface and side walls vertically formed at all side peripheral portions of the bottom surface but one side peripheral portion of the bottom surface; and a supporting member (38) installed at the open side of peripheral portion of the bottom surface to support the lamp frame.” Again, Applicants respectfully disagree.

As stated above for claims 4-5, the single frame disclosed by Susumu actually teaches vertical side walls on all four sides of the single frame (see FIGS. 5 and 6), and the so-called supporting member 38 of Susumu is actually merely a groove into which the light source unit 31 is inserted. In other words, the single frame of Susumu is a self-contained four-sided frame and it does not comprise two separate frames such as those recited in the claims of the present invention. Moreover, the Examiner reveals little insight from the cited references to support the assertion that

the use of a first and second frame arrangement as recited in claim 10 would have been obvious. This is especially the case since Susumu does not teach or suggest the use of a second frame that can be inserted into the first frame so that it remains within the confines of the outer periphery of the first frame. Accordingly, Applicants request that the rejection of claim 10 be withdrawn.

The rejections of claims 11-15 and 23-25 on obviousness grounds are also misplaced since those claims depend from claim 10 that is distinguishable from and patentably distinct over the prior art as set forth above.

Claim 16

Claim 16 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Nagamura et al., U.S. Patent No. 6,292,239 and Susumu et al., JP 11-133401, and further in view of Lee, U.S. Patent No. 5,815,227. Applicants respectfully traverse this rejection and submit that this claim is non-obvious and patentably distinct from the prior art references and therefore should be allowed.

In stating the rejection, the Examiner asserted that “the engaging structure using a fixing projection and a coupling hole as claimed in claim 16 would have been at least [an] obvious variation” of the known art for “engaging two frames.” (See Office Action, at p. 6). However, the Examiner overlooks the fundamental distinction between the teachings of Nagamura and Susumu and the claims of the present invention: none of the prior art references teach or suggest the use of two frames that comprise the mold frame for the LCD device in which the second frame is inserted into that portion of the first frame, which has vertical walls formed on all sides except for one side, wherein there is no side wall formed such that the second frame remains inside the periphery of the exterior surface of the first frame. As such, Applicants respectfully assert that the teachings of Lee

do not make claim 16 obvious because, even considering the teachings of Nagamura and Susumu, there is nothing to suggest such a configuration.

Claim 22

Claim 22 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Nagamura and Susumu as applied to claims 1-15, 17-21 and 23-25 above, and further in view of Yokoyama, et al., U.S. Patent No. 5,818,555. Applicants respectfully traverse this rejection and submit that this claim is non-obvious and patentably distinct from the prior art references and therefore should be allowed.

In stating the rejection, the Examiner asserted, based on the teachings of Yokoyama, that the use of polyethylene terephthalate would have been an obvious design choice for achieving high reflectivity of the reflector that is recited in claim 22. However, the Examiner once again fails to appreciate that none of the prior art references, taken alone or in combination with each other, teach or suggest the feature of a container module comprising a first frame and a second frame in which the second frame is inserted into the first frame, which has vertical walls formed on all sides except for one side, at the location wherein there is no side wall formed such that the second frame remains inside the periphery of the exterior surface of the first frame. As such, Applicants respectfully assert that the teachings of Yokoyama do not make claim 22 obvious because, even considering the teachings of Nagamura and Susumu, there is nothing to suggest such a configuration.

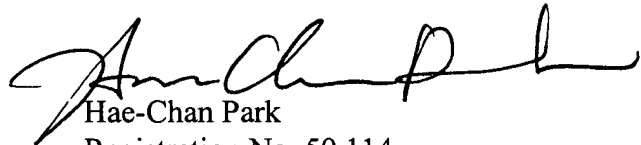
Based on the amendments and arguments presented herein, Applicants respectfully request that all the outstanding rejections over claims 1-25 be withdrawn and that the Examiner pass those claims to allowance.

Conclusion

All of the stated grounds of objection and rejection have now been properly traversed, accommodated or rendered moot. Applicants therefore respectfully request that the Examiner reconsider all presently outstanding objections and rejections and that they be withdrawn. Applicants believe that a full and complete response has been made to the outstanding Office Action. If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at the number provided.

Prompt and favorable consideration of this Amendment is respectfully requested.

Respectfully submitted,



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Marked-Up Version of Claims

The following is a marked-up version of amended claims 1, 4, 10 and 13.

1 1 (amended). A liquid crystal display device, comprising:
2 a display unit for displaying an image;
3 a back light assembly including a light source for generating a light, a light guiding plate
4 installed at a side of the light source so as to uniformly radiate the light generated from the light
5 source into the display unit and a light focusing means installed above the light guiding plate so as
6 to focus the light transferred through the light guiding plate to a surface of the display unit; and
7 a mold frame having a first frame for receiving the display unit, the light guiding plate and
8 the light focusing means, and having a second frame for receiving the light source, the second frame
9 configured for installation in the first frame such that the extremities of the second frame are within
10 the periphery of the outer portions of the first frame.

1 4 (amended). The liquid crystal display device as claimed in claim 1, wherein the first frame
2 includes a bottom surface, side walls that are vertically formed at side peripheral portions of the
3 bottom surface except for one side peripheral portion of the bottom surface, and a supporting
4 member installed at the side peripheral portion of the bottom surface[, in which the side wall is not
5 formed, so as to support the second frame, the second frame being installed in an inner side of the
6 supporting member, the supporting member having an upper surface that is corresponding to an
7 upper surface of the side walls installed[in] perpendicular to the second frame.

1 10 (amended). A container module, comprising:

2 a first frame for receiving a display unit, said first frame including a bottom surface and side
3 walls vertically formed at all side peripheral portions of the bottom surface[but]except for one side
4 peripheral portion of the bottom surface; and

5 a second frame for receiving a light source[which], wherein said second frame is detachably
6 coupled to the side peripheral portion of the bottom surface of said first frame where the side wall
7 is not formed, the second frame being coupled with the first frame such that the extremities of the
8 second frame are within the periphery of the outer portions of the first frame.

1 13 (amended). The container module as claimed in claim 12, wherein both ends of the
2 supporting member are vertically bent and extend towards the side wall positioned[in] perpendicular
3 to the supporting member.